5

15

20

THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:

- A method of providing an indication of an incoming call to a called station coupled to a telecommunications network, the called station having a data processing terminal engaged in a data call with a data communications network, the data call being through a connection in the telecommunications network to an access gateway for the data network, the method comprising the steps of: 10
 - providing a signal advising of the incoming call from the access gateway, over the data call connection through the telecommunications network, to the data

generating by the data processing terminal, processing terminal; and responsive to receiving the signal, an incoming call

- A method as claimed in claim 1, wherein the signal indication. is a message including information relating to the incoming
- A method of providing an indication of a message call. waiting at a voice messaging service to a called station coupled to a telecommunications network, the called station having a data processing terminal engaged in a data call with a data communications network, the data call being through a connection in the telecommunications network to 25 an access gateway for the data network, the method 30

providing, by the telecommunications network, an comprising the steps of: incoming call intended for the called station to a voice messaging service whereby the incoming call may record a

providing a signal advising of the message waiting from the access gateway, over the data call connection message;

35

through the telecommunications network, to the data processing terminal; and

generating by the data processing terminal, responsive to receipt of the signal, the message waiting indication.

4. A method as claimed in claim 3, wherein the signal is a message including information relating to the incoming call.

10

25

30

- 5. A method as claimed in claim 4, wherein the message includes information relating to the recorded message.
- 15 6. A method of disposing of an incoming call intended for a called station coupled to a telecommunications network, the called station having a data processing terminal engaged in a data call with a data communications network, the data call being through a connection in the communications network to an access gateway for the data network, the method comprising the steps of:

holding call processing of the incoming call at a switching system in the relecommunications network;

providing a signal advising of the incoming call from the access gateway, over the data call connection through the telecommunications network, to the data processing terminal;

receiving from the data processing terminal, via the access gateway, instructions for disposing of the incoming call; and

continuing the call processing of the incoming call at the switching system according to the received instructions.

7. A system for interconnecting a telecommunications network and a data communications network, comprising:

5

15

20

a telecommunications gateway and a data network gateway adapted to interface the telecommunications network and the data network;

one or more stations coupled to the telecommunications network, each station having a data terminal and a telephone terminal;

means for recognizing, responsive to an incoming call being directed to a particular station, that the data terminal of the particular station has a data call

10 connection through the telecommunications network to the data network; and

means for signalling information relating to the incoming call from the telecommunications network, via the telecommunications and data network gateways, over the data call connection to the data terminal of the particular calling station.

8. A method of managing telephone service to a called station coupled to a telecommunications network while the called station is engaged in a data call, the method comprising the steps of:

providing a message indicative of an incoming call to the called station via the data call;

accepting a message from the called station via the data call; and

disposing of the incoming call in response to the accepted message.

- 9. A method as claimed in claim 8 wherein the message indicative of an incoming call is an advanced intelligent network (AIN) message.
- 10. A method as claimed in claim 8 wherein the message indicative of an incoming call is a signalling system #7
 35 message.

10

- 11. A method as claimed in claim 8 wherein the message indicative of an incoming call is an ISDN message.
- 12. A method as claimed in claim 8 wherein the message indicative of an incoming call is a call waiting indication.
 - 13. A method as claimed in claim 8 wherein the message indicative of an incoming call is a voice message indication.
 - 14. A method as claimed in claim 8 wherein the step of disposing of the incoming call includes forwarding the call to voice mail.
- 15. A method as claimed in claim 14 wherein the step of disposing of the incoming call includes playing an announcement to the calling party.
- of disposing of the incoming call includes forwarding the call to another line.
- 17. A method as claimed in claim 14 wherein the step of disposing of the incoming call includes sending a text message.
 - 18. A method as claimed in claim 14 wherein the step of disposing of the incoming call includes answering the call using voice over the data call.
 - 19. A method as claimed in claim 14 wherein the step of disposing of the incoming call includes terminating the data call and accepting the incoming call.

35

30

20. A method as craimed in claim 14 wherein the step of disposing of the incoming call includes parking the data call and accepting the incoming call.

add A2

